

CLAIMS:

Sub B 7. A device used in surgical procedures to reconstruct an enlarged left ventricle of a human heart, the device comprising:

a shaper, having a size and shape substantially equal to the size and shape of an appropriate left ventricle, wherein the shaper is adapted to be temporarily placed into the enlarged left ventricle during a surgical procedure.

2. The device of claim 1 wherein the shaper comprises an expandable balloon, such that when the balloon is in a substantially inflated condition, the balloon is a size and shape substantially equal to the size and shape of an appropriate left ventricle.

3. The device of claim 2 wherein when the balloon is in an inflated condition, the balloon cannot be substantially expanded.

4. The device of claim 2 wherein the balloon is in an inflated condition, the balloon maintains the shape of an appropriate left ventricle while being further inflated.

5. The device of claim 2 wherein the balloon is filled with fluid.

6. The device of claim 5 wherein the fluid is a gel.

7. The device of claim 6 wherein the gel is silicone.

8. The device of claim 2 further comprising:
a tube in fluid communication with an interior of the balloon,
a pressurized fluid reservoir in fluid communication with the tube, and
a valve coupled to the tube for maintaining a pressure of the pressurized fluid.

9. The device of claim 8 further comprising a means to monitor the pressure of the pressurized fluid.

10. The device of claim 8 wherein the pressurized fluid reservoir is a syringe.

11. The device of claim 8 further comprising a means to withdraw the pressurized fluid from the tube.

12. The device of claim 11 wherein the means to withdraw the pressurized fluid is a syringe.

13. The device of claim 1 wherein the shaper is a wire mesh of a predetermined shape.

14. The device of claim 13 wherein the wire mesh is made of nitinol.

15. A method for reconstructing an enlarged left ventricle of a human heart, the method comprising:
opening the enlarged left ventricle,
placing a shaper into the enlarged left ventricle, the shaper having a size and shape substantially equal to the size and shape of an appropriate left ventricle,
reforming the enlarged left ventricle over the shaper,
removing the shaper from the enlarged left ventricle, and
closing the opening, such that the enlarged left ventricle is reconstructed into a shape and volume of an appropriate left ventricle.

16. The method of claim 15 further comprising:
determining a demarkation line between non-viable tissue and viable tissue,
excluding some of the non-viable tissue,
placing at least one suture along the demarkation line, and

- pulling the suture such that the left ventricle is pulled around the shaper.
17. The method of claim 16 wherein the non-viable tissue is akinetic tissue.
 18. The method of claim 16 wherein the non-viable tissue is dyskinetic tissue.
 19. The method of claim 16 wherein the non-viable tissue is a combination of akinetic and dyskinetic tissue.
 20. The method of claim 16 wherein the demarkation line is determined by engaging a wall of the left ventricle of a beating heart to sense tactile feedback.
 21. The method of claim 16 wherein the demarkation line is determined by visually determining akinetic and viable tissue.
 22. The method of claim 16 wherein the demarkation line is determined by detecting electrical pulses from viable tissue.
 23. The method of claim 15 wherein the closing step comprises suturing a patch to an interior of the left ventricle.
 24. The method of claim 16 wherein the closing step comprises suturing a patch along the at least one demarkation line.
 25. A method for reconstructing an enlarged left ventricle of a human heart, the method comprising:
 - opening the enlarged left ventricle,
 - placing a shaper into the enlarged left ventricle, the shaper having a size and shape substantially equal to the size and shape of an appropriate left ventricle,
 - pulling the enlarged left ventricle over the shaper,

suturing the left ventricle such that an interior surface of the left ventricle substantially conforms to the shape of the shaper,
partially closing the opening,
removing the shaper from the enlarged left ventricle, and
completely closing the opening, such that the enlarged left ventricle is reconstructed.

26. The method of claim 25 further comprising suturing a patch to an interior surface of the left ventricle.

27. The method of claim 25 further comprising suturing a patch along the at least one demarkation line.

28. The method of claim 25 further comprising excluding scar tissue from the viable tissue.

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